Conclusion: Genomic-wide analysis of drug resistance suspected isolates is recommended in order to find the possible drug resistance early in the therapy period. Whole genome analysis of drug resistance by NGS technique enables rapid identification of drug resistant tuberculosis and initiation of appropriate therapy.

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Using peptidoglican associated lipoprotein of legionella pneumophila as a urinary antigen for development of an indirect sandwich ELISA

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Background: Urinary antigen testing has been proven to be the most powerful diagnostic method to detect *Legionella* antigen which is recognized as the causative agent of Legionnaires disease. *L. pneumophila* peptidoglycan-associated lipoprotein (PAL) protein is a extremely conserved antigen among *Legionella* species.

Methods & Materials: Rabbit and rat anti-PAL immunoglobulin G (IgG) antibodies were produced by immunization with the purified, recombinant PAL (r-PAL) protein of *L. pneumophila* serogroup 1 and used as capture and detection antibodies in the PAL antigen-based enzyme-linked immunosorbent assay (ELISA) to detect urinary PAL antigen. Urine samples obtained from rats experimentally infected with *L. pneumophila* serogroup 1. The performance of the PAL antigen-based ELISA was measured on 40 infected urine samples and 40 controls obtained from the uninfected rats.

Results: After choosing the cutoff value of 0.192, the sensitivity and specificity of the PAL antigen-based ELISA were 87.5% and 97.5%, respectively. The results obtained by PAL antigen base ELISA were compared with those obtained by Biotest. All of the control human urine samples were negative by the PAL antigen-based ELISA.

Conclusion: The present report represents an extension of our efforts to design an ELISA kit for detection of the PAL urinary antigen in Legionnaires disease (LD). The PAL antigen-based ELISA assay was relatively simple to perform, precise, highly sensitive and specific, and reproducible. The PAL antigen-based ELISA results yielding values which are almost equivalent to those found with the same samples run by the Biotest EIA. Taken together, the data indicated that the PAL antigen-based ELISA described here is the first indirect sandwich ELISA for urinary antigen detection which it could easily be applied for diagnosis of LD.

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Studies on incidence of malaria and comparative efficacy of diagnostic test methods for plasmodium falciparum and p. vivax

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Background: Diagnostic methods are becoming a crucial component of malaria control and prevention. Improved ability to diagnose malaria may prevent many unnecessary antimalarial treatments and should also allow prompt attention to other causes of fever when malaria is ruled out.

Methods & Materials: This study compared the diagnostic accuracy of Bioline SD (HRP-2) and ACON (HRP-2/Aldolase) based RDTs with microscopy. Blood samples were collected from 200 asymptomatic and 60 symptomatic subjects in Ado-Odo/Ota LGA, Ogun state. The blood samples collected were first analyzed using the Rapid Diagnostic Tests and then stained with Giemsa stain and viewed under the microscope.

Results: Out of the samples collected from asymptomatic subjects, 44% were males while 66% were females. Among the samples from symptomatic patients, 58.3% were females. The overall incidence of falciparum malaria among the study population by microscopy was 32.3%. Among the asymptomatic patients only, the percentage incidence from microscopy was 26.5% with 11% males and 15.5% females; by Bioline SD (HRP-2) kits, the incidence was 17%with 6.5% males and 10.5% females; while by ACON (HRP-2/Aldolase), percentage incidence was 18% for *P. falciparum*, 6%were males and 12% were females. Among the symptomatic subjects, incidence rate of *P. falciparum* malaria was 42% by ACON kits, 38.3% by Bioline SD and 51.7% microscopic method with 58.1% males and 41.9% females.Two samples were positive for *P. vivax* when diagnosed with ACON (HRP 2/ Pan) but was not detected by microscopy

Conclusion: There is the need to improve on the efficacy of available Rapid Diagnostic Test methods and their sensitivity in indicating the presence of *P. falciparum* and *P. vivax* antigens in the blood

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